

**IN THE UNITED STATES DISTRICT COURT  
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

MARK RALEIGH,	:	
as the Personal Representative of	:	
the ESTATE OF BRAEDAN	:	
RALEIGH, Deceased,	:	Case Number:
	:	
and	:	
	:	
BRENT CRIDDLE,	:	
as the Personal Representative of	:	
the ESTATE OF DEVIN CRIDDLE,	:	
Deceased,	:	
	:	
Plaintiffs,	:	
	:	
v.	:	
	:	
AVCO CORPORATION,	:	
	:	
and	:	
	:	
AVSTAR FUEL SYSTEMS, INC.	:	
	:	
and	:	
	:	
CHAMPION AEROSPACE, LLC	:	
	:	
and	:	
	:	
PRECISION AIRMOTIVE, LLC	:	
	:	
Defendants.	:	

**CIVIL ACTION COMPLAINT**

**(JURY TRIAL DEMANDED)**

COMES NOW, Plaintiffs Mark Raleigh, as personal representative of the Estate of Braedan Raleigh, deceased, and Brent Criddle, as personal representative of the Estate of Devin Criddle, deceased, by and through their undersigned counsel, and for their Complaint against Defendants Avco Corporation, Avstar Fuel Systems, Inc., Champion Aerospace, LLC, and Precision Airmotive, LLC and plead as follows:

### **THE PARTIES**

1. Plaintiff Mark Raleigh is an individual and a resident of the state of Utah and brings this action in his capacity as the duly appointed personal representative of the Estate of Braedan Raleigh, deceased (who was also a resident of Utah), on behalf of the estate and all persons entitled to recover damages under the applicable Wrongful Death and Survival Acts.

2. Plaintiff Brent Criddle is an individual and a resident of the state of Utah and brings this action in his capacity as the duly appointed personal representative of the Estate of Devin Criddle (who was also a resident of Utah), deceased, on behalf of the estate and all persons entitled to recover damages under the applicable Wrongful Death and Survival Acts.

3. As pled in more detail below, Decedents, Braedan Raleigh and Devin Criddle, were killed as a result of a May 29, 2021 crash of a Cessna 172 airplane in Eden, Utah which was powered by an engine designed, manufactured, sold, and/or

supported by Defendant Avco Corporation and in which a components called a magneto which was designed, manufactured, sold, and/or supported by Defendant Champion Aerospace, LLC, a flow divider designed, manufactured, sold, and/or supported by Defendant Avstar Fuel Systems, Inc., and a fuel injector servo designed, manufactured, sold, and/or supported by Defendant Precision Airmotive, LLC were installed.

4. Defendant Avco Corporation (Avco) is a business entity organized and existing under the laws of the State of Delaware. Avco Corporation's principal business is engine manufacturing, overhaul, rebuild, and support and that all activities and decision making concerning these activities occur within the Middle District of Pennsylvania. Defendant Avco Corporation has claimed many locations as its principal place of business such as Providence, Rhode Island at 40 Westminster Blvd. and Haslet, TX at 920 Westport Parkway, Suite 100. However, Avco's true principal place of business is at its engine manufacturing facility located in the Middle District of Pennsylvania. Avco Corporation is registered with the Pennsylvania Secretary of State to do business in the Commonwealth of Pennsylvania.

5. Defendant Avstar Fuel Systems, Inc., ("Avstar") was and is a corporation for profit organized and existing under the laws of the State of Florida with a principal place of business at 1365 Park Lane South, Jupiter, FL 33458.

6. Defendant Champion Aerospace, LLC (CAL) is a business entity organized and existing under the laws of the State of Delaware. CAL's principal place of business is believed and therefore averred to be 1230 Old Norris Road, Liberty, SC 29657.

7. Defendant Precision Airmotive, LLC (Precision) is a business entity organized and existing under the laws of the State of North Carolina. Precision's principal place of business is believed and therefore averred to be 17716 48<sup>th</sup> Drive NE, Arlington, WA 98223 and/ or 211 Chase Street, Gibsonville, NC 27249-2450.

#### **JURISDICTION AND VENUE**

8. Subject matter jurisdiction exists over this action pursuant to 28 U.S.C. § 1332(a) as there is complete diversity among the parties and the matter in controversy exceeds \$75,000 exclusive of costs and interest.

9. Specific personal jurisdiction over Defendant Avco is authorized by the Pennsylvania Long Arm Statute 42 Pa.C.S.A. § 5322 because Avco transacted business within the Commonwealth by a series of acts and/or a single act for the purpose of realizing pecuniary benefit including, but not limited to, manufacturing, designing, selling, rebuilding, overhauling, and supporting aircraft engines, shipping merchandise directly or indirectly from and/or through this Commonwealth, engaging in business within this Commonwealth, owning and using property within

this Commonwealth, contracting to supply services within this Commonwealth, and by causing harm or tortious injury by an act or omission in this Commonwealth by:

- a. designing, manufacturing, rebuilding, overhauling, selling, supporting, certifying, and/or promoting the defectively designed and/or defectively manufactured subject aircraft engine from its factory and business presence in the Commonwealth of Pennsylvania;
- b. shipping, distributing, rebuilding, overhauling, selling, and/or delivering the defectively designed and/or defectively manufactured subject engine from and/or through the Commonwealth of Pennsylvania;
- c. contracting with the subject aircraft's owner and operator for purposes of overhauling, rebuilding, and procuring the defectively designed and/or manufactured subject engine for incorporation into the aircraft involved in the accident giving rise to this litigation from its factory and business presence in the Commonwealth of Pennsylvania;
- d. issuing instructions for continuing airworthiness, maintenance, overhaul, and/or inspection for the subject engine from its factory and business presence in the Commonwealth of Pennsylvania;
- e. being required to accept service of process within the Commonwealth of Pennsylvania; and

f. committing the tortious conduct, by acts or omission, as pled herein, within the Commonwealth of Pennsylvania from its factory and business presence in this Commonwealth.

10. General personal jurisdiction over Avco also exists. Over the years, Avco Corporation has claimed a principal place of business in many states including, but not limited to Massachusetts, Rhode Island, and Texas. However, Avco's principal place of business is located in Pennsylvania and has been located there since 1929. Avco's physical presence has been in Pennsylvania since then, and exceptional circumstances exist to deem Avco at home in Pennsylvania.

a. Avco conducts all activities for design, testing, certification, manufacturing, sales, product support, repair station work, and rebuild and overhaul work for its aircraft piston engine business in Pennsylvania;

b. Avco Corporation's safety review board and materials review board are in Pennsylvania;

c. all documentation concerning the aircraft piston business, engine records, warranty records, repair station records, rebuild and overhaul records and manuals, field service reports, and engineering reports are maintained at the Avco Corporation facility in Pennsylvania;

d. all dealings, communications, and interactions with regulatory authorities is done by Avco from its Pennsylvania location; and

e. Avco is at home in Pennsylvania.

11. Specific personal jurisdiction over Defendant Avstar is authorized by the Pennsylvania Long Arm Statute 42 Pa.C.S.A. § 5322 because Avstar transacted business within the Commonwealth by a series of acts and/or a single act for the purpose of realizing pecuniary benefit including, but not limited to, shipping products, including the product at issue in this litigation, directly or indirectly to and/or through this Commonwealth, engaging in business within this Commonwealth, owning and using property within this Commonwealth, contracting to supply services within this Commonwealth, and by causing harm or tortious injury by an act or omission in this Commonwealth by:

a. designing, manufacturing, rebuilding, overhauling, selling, supporting, certifying, and/or promoting the subject defectively designed and/or defectively manufactured aircraft engine flow divider and shipping that defective product to co-Defendant Avco located in the Commonwealth of Pennsylvania for the purpose of installing it in an aircraft engine;

b. contracting with co-Defendant and Pennsylvania business entity Avco for purposes of selling, purchasing, overhauling, rebuilding, and procuring the subject engine flow divider for incorporation into the aircraft engine involved in the accident giving rise to this litigation;

- c. collaborating with Pennsylvania business entity Avco with respect to the incorporation of the subject type and other types of flow dividers into the engine design including but not limited to performing testing, evaluation, and product support of the magneto to support its use in the Avco engine;
- d. upon information and belief, investigating the cause of flow divider malfunctions and not reporting the results of such investigations to Avco in Pennsylvania; and

- e. Committing the tortious conduct, by acts or omission, as pled herein, directed to and/or within the Commonwealth of Pennsylvania by and through the foregoing acts and omissions.

12. Specific personal jurisdiction over Defendant CAL is authorized by the Pennsylvania Long Arm Statute 42 Pa.C.S.A. § 5322 because CAL transacted business within the Commonwealth by a series of acts and/or a single act for the purpose of realizing pecuniary benefit including, but not limited to, shipping products, including the product at issue in this litigation, directly or indirectly to and/or through this Commonwealth, engaging in business within this Commonwealth, owning and using property within this Commonwealth, contracting to supply services within this Commonwealth, and by causing harm or tortious injury by an act or omission in this Commonwealth by:

- a. designing, manufacturing, rebuilding, overhauling, selling, supporting, certifying, and/or promoting the subject defectively designed and/or defectively manufactured aircraft engine magneto and shipping that defective product to co-Defendant Avco located in the Commonwealth of Pennsylvania for the purpose of installing it in an aircraft engine;
- b. contracting with co-Defendant and Pennsylvania business entity Avco for purposes of selling, purchasing, overhauling, rebuilding, and procuring the subject engine magneto for incorporation into the aircraft engine involved in the accident giving rise to this litigation;
- c. collaborating with Pennsylvania business entity Avco with respect to the incorporation of the subject type and other types of magnetos into the engine design including but not limited to performing testing, evaluation, and product support of the magneto to support its use in the Avco engine;
- d. upon information and belief, investigating the cause of magneto malfunctions and not reporting the results of such investigations to Avco in Pennsylvania; and
- e. Committing the tortious conduct, by acts or omission, as pled herein, directed to and/or within the Commonwealth of Pennsylvania by and through the foregoing acts and omissions.

13. Specific personal jurisdiction over Defendant Precision is authorized by the Pennsylvania Long Arm Statute 42 Pa.C.S.A. § 5322 because Precision transacted business within the Commonwealth by a series of acts and/or a single act for the purpose of realizing pecuniary benefit including, but not limited to, shipping products, including the product at issue in this litigation, directly or indirectly to and/or through this Commonwealth, engaging in business within this Commonwealth, owning and using property within this Commonwealth, contracting to supply services within this Commonwealth, and by causing harm or tortious injury by an act or omission in this Commonwealth by:

- a. designing, manufacturing, rebuilding, overhauling, selling, supporting, certifying, and/or promoting the subject defectively designed and/or defectively manufactured aircraft engine fuel injector servo and shipping that defective product to co-Defendant Avco located in the Commonwealth of Pennsylvania for the purpose of installing it in an aircraft engine;
- b. contracting with co-Defendant and Pennsylvania business entity Avco for purposes of selling, purchasing, overhauling, rebuilding, and procuring the subject engine fuel injector servo for incorporation into the aircraft engine involved in the accident giving rise to this litigation;

c. collaborating with Pennsylvania business entity Avco with respect to the incorporation of the subject type and other types of fuel injector servo into the engine design including but not limited to performing testing, evaluation, and product support of the fuel injector servo to support its use in the Avco engine;

d. upon information and belief, investigating the cause of fuel injector servo malfunctions and not reporting the results of such investigations to Avco in Pennsylvania; and

e. Committing the tortious conduct, by acts or omission, as pled herein, directed to and/or within the Commonwealth of Pennsylvania by and through the foregoing acts and omissions.

14. Defendants all maintain the necessary minimum contacts with the Commonwealth of Pennsylvania to justify the exercise of personal jurisdiction to the fullest extent of the Due Process Clause of the Constitution of the United States. Furthermore, exercise of personal jurisdiction over Defendant will not offend notions of fair play and substantial justice.

15. The Middle District of Pennsylvania is the most convenient forum to preside over this litigation as all parties are amenable to suit here, the engine was designed, manufactured, and rebuilt here, and all defective components were delivered here and then installed in the engine prior to sale.

16. Venue is appropriate in the Middle District of Pennsylvania because the products at issue was designed, manufactured, sold, assembled, and/or supported by Avco from its factory facility located within the Middle District of Pennsylvania and because co-Defendants Avstar, CAL, and Precision shipped defective products to Avco here in the Middle District of Pennsylvania.

### **THE ACCIDENT**

17. The subject Cessna 172S aircraft is a two-seat aircraft powered by a Lycoming IO-360-L2A engine, designed, manufactured, sold, certified, supported, overhauled, rebuilt, and/or assembled by Avco.

18. Avco does business under the trade name Lycoming Engines.

19. The IO-360-L2A engine is a four-cylinder piston powered fuel injected engine which relies upon components called magnetos for purposes of delivering a timed electrical charge to the engine cylinder spark plugs and relies upon a fuel injector servo and flow divider (also called manifold) to deliver and properly meter fuel to the engine combustion chamber.

20. The subject engine's magnetos were designed, manufactured, sold, certified, supported, overhauled, rebuilt, and/or assembled by CAL.

21. The subject engine's flow divider was designed, manufactured, sold, certified, supported, overhauled, rebuilt, and/or assembled by Avstar.

22. The subject engine's fuel injector servo was designed, manufactured, sold, certified, supported, overhauled, rebuilt, and/or assembled by Precision.

23. The ignition and resulting activation of the cylinder sparkplugs must occur at a precise time relating to the movement and position of the engine's piston within the cylinder.

24. The engine's piston connects to the crankshaft through a connecting rod causing it to rotate and transfer that rotational power to both the propeller at the front of the engine and through a series of gears at the rear of the engine which in turn cause the internal components of the magnetos to rotate.

25. Proper and safe operation of the IO-360-L2A engine requires continuity of the rear crankshaft gear to engage with the gearing on the accessory case.

26. Proper and safe operation of the IO-360-L2A engine requires proper timing of the magneto spark.

27. Proper and safe operation of the IO-360-L2A engine requires proper fuel delivery and metering by the engine fuel pump, flow divider, and fuel injector servo.

28. A failure of the crankshaft gear will cause a discontinuity between it and the idler gears and as a result, the components on the accessory case, such as the magneto will lose timing or otherwise malfunction causing an erratic operation and/or loss of engine power rendering the aircraft incapable of continued flight.

29. A failure of the magneto to maintain proper timing of the engine sparkplugs will cause undue stresses in the engine rotating system and a reduction in power and such undue stresses can induce crankshaft gear failure rendering continued safe flight impossible.

30. Alternatively, and/or concurrently with a failure of the magneto timing/crankshaft gear failure, a failure of the fuel injector servo and/or flow divider will cause loss of engine power rendering continued safe flight impossible.

31. On May 29, 2021, Braedan Raleigh was a certified flight instructor providing instruction to Devin Criddle.

32. During flight, the subject aircraft experienced an inflight engine malfunction.

33. As a result, the aircraft impacted the ground and erupted into a post-crash fire.

34. It is believed and therefore averred that Devin Criddle survived the impact and attempted to exit the aircraft, but was killed as a result of post-crash fire and suffered pre-death conscious pain and suffering.

35. Braedan Raleigh succeeded in exiting the plane, but was engulfed in flames and he survived for several hours and/or days until complications of his traumatic injuries caused his death and he suffered pre-death conscious pain and suffering.

## **THE DAMAGES CLAIMED**

36. The Plaintiffs bring this action under Pennsylvania's Wrongful Death Act and Survival Act. In the event another state's law is deemed to apply to the issue of recoverable damages, Plaintiffs assert all remedies available under that state's wrongful death and survival acts.

37. Devin Criddle is survived by his parents, Brent and Stacy Criddle, and brothers and sisters, Jessica, Carlee, Caden, and Brinley.

38. Braedan Raleigh is survived by his parents, Mark Raleigh and Holly Adamson and brothers and sisters Zach Raleigh, Jordan Phelps, Casey Raleigh.

39. As a direct and proximate result of the accident both decedents experienced pre-death conscious pain and suffering, personal injury, terror, and fear of impending death, all of which resulted in their ultimate deaths. Claims for these damages survive decedents' deaths.

40. As a direct and proximate result of the accident, both decedents' and/or their estates suffered loss of future earnings, net accumulations, pecuniary losses, funeral and burial expenses, estate administration expenses, and any other damage allowed under applicable law. Claims for these damages survive decedents' deaths.

41. As a direct and proximate result of the accident, all statutory beneficiaries of Braedan Raleigh have suffered the loss of his care, comfort, companionship, protection, guidance, tutelage, support, services, contributions,

earnings, society, advice, and morality and such damages will extend into the future. In addition, all statutory beneficiaries of Braedan Raleigh have suffered and will continue to suffer emotional pain and anguish and claim all damages recoverable under the applicable wrongful death act.

42. As a direct and proximate result of the accident, all statutory beneficiaries of Devin Criddle have suffered the loss of his care, comfort, companionship, protection, guidance, tutelage, support, services, contributions, earnings, society, advice, morality, and such damages will continue into the future. In addition, all statutory beneficiaries of Braedan Raleigh have suffered and will continue to suffer emotional pain and anguish and claim all damages recoverable under the applicable wrongful death act.

**COUNT I  
(Strict Liability)  
Plaintiffs v. Avco Corporation**

43. Plaintiffs incorporate paragraphs 1 through 42 above as if set forth at length in this count.

44. Defendant Avco is in the business of designing, manufacturing, selling, certifying, inspecting, testing, distributing, supplying, servicing, rebuilding, overhauling, supporting, and marketing aircraft engines including the subject IO-360-L2A engine assembly and its component parts of which the crankshaft gear, fuel pump, magnetos, flow divider, and/or fuel injector servo are included.

45. As part of its business operations, Avco designed manufactured, sold, certified, inspected, tested, distributed, supplied, serviced, rebuilt, overhauled, supported, and/or marketed the subject IO-360-L2A engine and component parts of which the crankshaft gear, fuel pump, magnetos, flow divider, and/or fuel injector servo are included.

46. In this role, Avco issued design specifications, material specifications, operating specifications, and imposed other engineering requirements on the engine and components of which the crankshaft gear, fuel pump, magnetos, flow divider, and/or fuel injector servo are included and/or delegated those duties to suppliers over whom Avco Corporation exercised direct control.

47. Further to its status as the manufacturer, seller, designer, certifier, overhauler, rebuilder, and/or product supporter, Avco Corporation issued maintenance instructions, inspection instructions, troubleshooting instructions, and/or was also required to issue all appropriate warnings necessary to make the IO-360-L2A engine assembly and its components safe for use in an aircraft.

48. The subject IO-360-L2A engine installed on the accident aircraft was defectively designed and/or manufactured and/or included components, including but not limited to the crankshaft gear, fuel pump, magnetos, flow divider, and/or fuel injector servo are included, that were defectively designed and/or defectively manufactured at the time they left the control of Avco.

49. The defects in the subject IO-360-L2A engine and its components include, but are not limited to the following:

- a. defective design and/or manufacture of the engine's crankshaft gear due to improper geometry, forging, metallurgy, materials selection, hardness, strength, or other characteristic rendering it capable of fracture;
- b. defective design and/or manufacture of the engine's crankshaft gear to crankshaft attachment structure which was improperly aligned;
- c. defective design and/or manufacture of the engine's crankshaft gear due to improper geometry, forging, metallurgy, materials selection, hardness, strength, and/or other characteristic rendering it capable of tooth fracture and/or failure;
- d. defective design and/or manufacture of the engine assembly due to the inclusion of a defectively designed and/or manufactured crankshaft and/or crankshaft gear;
- e. defective design and/or manufacture of the engine assembly due to a single point failure at the crankshaft gear which results in the simultaneous malfunction of the required dual ignition sources;
- f. defective design and/or manufacture of the engine assembly due to the failure to incorporate independent ignition sources due to the single point failure existing at the crankshaft gear interface;

- g. defective design and/or manufacture of the engine assembly due to excessive vibratory and/or torsional vibratory stresses imparted to the crankshaft gear;
- h. defective design and/or manufacture of the engine due to the incorporation of a magneto that uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;
- i. defective design and/or manufacture of the engine due to the inclusion of a magneto that lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- j. defective design and/or manufacture of the engine due to the inclusion of a magneto that lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement and contact to other structures thereby causing internal damage;
- k. defective design and/or manufacture of the engine due to lack of a reliable timed ignition source;
- l. defective design and/or manufacture of the engine due to lack of any safety feature which prevents the occurrence of in-flight magneto timing alteration;

- m. defective design and/or manufacture of the engine due to lack of any safety feature which does not eliminate the delivery of ignition from a malfunctioned magneto;
- n. defective design and/or manufacture of the engine due to the incorporation of a magneto whose internal components are unreliable, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- o. defective design and/or manufacture of the engine due to the incorporation of a fuel injector servo defectively designed and/or manufactured rendering it incapable of properly providing the required fuel air mixture and/or fuel flow due to unreliable components, improper materials selection, improper geometry of components, improperly assembly of internal components, improperly configured, or otherwise improperly designed and/or manufactured rendering the device capable and likely to experience in flight malfunction;
- p. defective and improper warnings, instructions, and information necessary to render the fuel injector servo safe;
- q. defective design and/or manufacture of the engine due to the incorporation of a fuel flow divider incapable of properly providing the

appropriate flow and of fuel to the engine combustion chamber due to defectively designed and/or manufactured valve, plunger, diaphragm, and/or plunger orifice;

- r. defective design and/or manufacture of the magneto because it uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;
- s. defective design and/or manufacture of the magneto because it lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- t. defective design and/or manufacture of the magneto because it lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;
- u. defective design and/or manufacture of the magneto due to its unreliability as a timed ignition source;
- v. defective design and/or manufacture of the magneto due to lack of any safety feature which prevents the occurrence of in-flight timing alteration;
- w. defective design and/or manufacture of the magneto due to lack of any safety feature which does not eliminate the delivery of ignition after malfunction;

- x. defective and/or manufacture of the magneto due to the incorporation of unreliable internal components, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- y. defective design and/or manufacture of the engine magneto;
- z. defective design and/or manufacture of the flow divider seating orifice due to failure to remove burs, sharp edges, obstructions, occlusions, or other metallurgical malformations which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
  - aa. defective design and/or manufacture of the flow divider seating orifice failure to adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
  - bb. defective design and/or manufacture of the flow divider plunger (valve) due to failure to assemble properly, propensity to disengage by rotation, adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement within the orifice;
  - cc. defective design and/or manufacture of the flow divider diaphragm due to failure to assemble properly, propensity to rupture, tear, or otherwise fail to seal;

dd. improper design of the flow divider valve and seat rendering it susceptible to cocking, rubbing, hanging, sticking, or other form of obstruction;

ee. improper design of the flow divider valve and seat due to lack of redundancy;

ff. defective design and/or manufacture of the engine fuel pump due to improper materials selection, improper geometry, improperly configuration, prone to cavitation, seizure, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

gg. failure to provide all necessary and/or accurate warnings to eliminate the dangers of the flow divider and/or components thereof;

hh. improper remanufacture, rebuild, and/or overhaul of components of the fuel injector servo;

ii. defective design and/or manufacture of the engine;

jj. designing and/or manufacturing the IO-360-L2A engine in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;

kk. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the IO-360-L2A engine and its components safe; and

ll. for reasons to be further identified after additional inspections of the engine, including but not limited to design defects in the rotating system of the engine, fuel delivery system of the engine, ignition system of the engine, or otherwise.

50. In addition to and/or independently of, Defendant rebuilt and/or overhauled the subject engine and returned it to service as a new engine zero timed and as part thereof, installed new and/or remanufactured components in the engine and as such created a new product and/or a product arising from a hybrid sales-service transaction therefore each of the allegations above concerning “manufacture” apply to both original manufacture and the process entailed in the re-manufacture, rebuild and or overhaul of the subject engine.

51. In addition to the features identified in paragraph 49(a) through (ll) which are incorporated herein, the engine as remanufactured, rebuilt, and/or overhauled was defectively designed due to failures in the metallurgical inspections of the crankshaft gear to identify dangerous anomalies and flaws and in the assembly and installation of the crankshaft assembly.

52. The foregoing defects rendered the IO-360-L2A engine and/or its magneto dangerously defective beyond any reasonable consumer’s expectation.

53. The danger of an in-flight crankshaft gear, fuel pump, magneto, flow divider, and/or fuel injector servo failure in an IO-360-L2A engine was beyond the expectations and acceptance of any reasonable consumer.

54. There was no way for Plaintiffs' decedents to anticipate or appreciate the dangerous condition of the products or the attendant risk of danger associated therewith.

55. Plaintiffs' decedents were ordinary consumers of the Defendant's product, and the Defendant's non-disclosure of information concerning the risks and dangers associated with the product fostered Plaintiffs' decedents' reasonable belief that the products were appropriate for the use to which they were advertised, intended, and permitted.

56. The risk and probability of harm to aircraft occupants associated with an engine failure including but not limited to, personal injury, death, death by fire, death by mutilation, and/or death by other horrible means, greatly outweighed the benefits of the product and the burden or cost of taken precautions or utilizing safer alternatively designed products that would have prevented this accident.

57. Feasible alternative designs existed at the time of the design inception, manufacture, and sale of the product which if used, would have prevented the accident.

58. Plaintiffs' decedents used the Defendant's product as it was intended to be used and were given no warnings or disclosures by Defendant of the defects identified above and the risks associated therewith.

59. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing defects through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports.

60. As a direct and proximate result of the design defects, manufacturing defects, and/or Defendant's failure to warn as identified above, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT II**  
**(Negligence)**  
**Plaintiffs v. Avco Corporation**

61. Plaintiffs incorporate paragraphs 1 through 60 above as if set forth at length in this count.

62. Avco Corporation is a seller, manufacturer, designer, distributor, assembler, rebuilder, overhauler, and product supporter of the IO-360-L2A engine assembly and its component parts and as such, owed duties to Plaintiffs and their decedents to act in an appropriate and reasonable manner so as to prevent the sale and dissemination of a dangerous and defective product, and/or otherwise warn of such conditions.

63. In addition to those legal duties imposed by the common law, Avco Corporation is the holder of the type certificate for the IO-360-L2A engine which imposes duties under federal regulatory law to design and manufacture an aviation engine in a manner that did not render the aircraft unairworthy or otherwise cause the engine and/or magneto to fall below the applicable airworthiness standards, and/or otherwise warn of such conditions.

64. In addition to duties imposed as the original manufacturer and seller of the engine, Avco engaged in the process of remanufacturing, rebuilding, and/or overhauling the subject engine with new, inspected, refurbished, and/or rebuilt components and all allegations in the following paragraph concerning

“manufacture” apply to both original manufacture and the process entailed in the re-manufacture, rebuild and or overhaul of the subject engine.

65. Avco Corporation breached its duties and was negligent, grossly negligent, careless, and reckless as follows:

- a. negligently designing, manufacturing, rebuilding, inspecting, assembling, and/or overhauling the engine’s crankshaft gear due to improper geometry, forging, metallurgy, materials selection, assembly, inspection, hardness, strength, or other characteristic rendering it capable of fracture;
- b. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine’s crankshaft gear to crankshaft attachment structure which was improperly aligned;
- c. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling engine’s crankshaft gear due to improper geometry, forging, metallurgy, materials selection, hardness, strength, and/or other characteristic rendering it capable of tooth fracture and/or failure;
- d. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to the inclusion of a defectively designed and/or manufactured crankshaft and/or crankshaft gear;
- e. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to a single point

failure at the crankshaft gear which results in the simultaneous malfunction of the required dual ignition sources;

f. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to the failure to incorporate independent ignition sources due to the single point failure existing at the crankshaft gear interface;

g. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to excessive vibratory and/or torsional vibratory stresses imparted to the crankshaft gear;

h. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a magneto that uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components and/or coming lose and damaging other structures;

i. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the inclusion of a magneto that lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;

j. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the inclusion of a magneto

that lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;

k. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to lack of a reliable timed ignition source;

l. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to lack of any safety feature which prevents the occurrence of in-flight magneto timing alteration;

m. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to lack of any safety feature which does not eliminate the delivery of ignition from a malfunctioned magneto;

n. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a magneto whose internal components are unreliable, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

o. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a fuel

injector servo defectively designed and/or manufactured rendering it incapable of properly providing the required fuel air mixture and/or fuel flow due to unreliable components, improper materials selection, improper geometry of components, improperly assembly of internal components, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

p. negligent, defective and improper warnings, instructions, and information necessary to render fuel injector servo safe;

q. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a fuel flow divider incapable of properly providing the appropriate flow and of fuel to the engine combustion chamber due to defectively designed and/or manufactured valve, plunger, diaphragm, and/or plunger orifice;

r. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto because it uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;

s. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto because it lacks any design

feature to ensure the stability and position of the hold down wedge to prevent its disengagement;

t. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto because it lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;

u. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to its unreliability as a timed ignition source;

v. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to lack of any safety feature which prevents the occurrence of in-flight timing alteration;

w. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to lack of any safety feature which does not eliminate the delivery of ignition after malfunction;

x. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to the incorporation of unreliable internal components, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise

improperly designed rendering the device capable and likely to experience in flight malfunction;

y. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the of the engine magneto;

z. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider seating orifice due to failure to remove burs, sharp edges, obstructions, occlusions, or other metallurgical malformations which will cause obstruction, hanging, seizure, or interference of the movement of the valve;

aa. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider seating orifice failure to adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement of the valve;

bb. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider plunger (valve) due to failure to assemble properly, propensity to disengage by rotation, adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement within the orifice;

- cc. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider diaphragm due to failure to assemble properly, propensity to rupture, or otherwise fail to seal;
- dd. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider valve and seat rendering it susceptible to cocking, rubbing, hanging, unfastening, sticking, or other form of obstruction;
- ee. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider valve and seat due to lack of redundancy;
- ff. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine fuel pump due to improper materials selection, improper geometry, improperly configuration, prone to cavitation, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- gg. failure to provide all necessary and/or accurate warnings to eliminate the dangers of the flow divider and/or components thereof;
- hh. improper remanufacture, rebuild, and/or overhaul of components of the fuel injector servo;

- ii. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine;
- jj. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the IO-360-L2A engine in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
- kk. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the IO-360-L2A engine and components safe; and
- ll. for reasons to be further identified after additional inspections of the engine, including but not limited to design defects in the rotating system of the engine, fuel delivery system of the engine, ignition system of the engine, or otherwise.

66. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

67. As a direct result of the foregoing acts and omissions of Avco Corporation, the subject IO-360-L2A engine experienced an in-flight engine failure

which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT III**  
**(Breach of Express and Implied Warranties)**  
**Plaintiffs v. Avco Corporation**

68. Plaintiffs incorporate paragraphs 1 through 67 above as if set forth at length in this count.

69. At all times material hereto, Avco was a merchant engaged in the business of designing, manufacturing, selling, supplying, supporting, certifying, distributing, licensing, distributing, rebuilding, remanufacturing, overhauling, and/or assembling aviation piston driven engines, their component parts, as well as the associated product support materials and instructions for continued airworthiness.

70. Avco Corporation described and advertised goods and services for sale, including the IO-360-L2A engine and component parts and the services involved in the rebuild, remanufacture, and overhaul of the same.

71. Such descriptions and advertisements included, but not limited to, advertising brochures, internet website presence, instruction manuals, user manuals, overhauls manuals and/or product support materials.

72. These descriptions, representations, and affirmations concerning the products resulted in express warranties that the products were airworthy, safe for their intended use, and conformed to approved and/or mandated engineering data.

73. These descriptions, representations, and/or affirmations resulted in oral and written express and implied warranties concerning the products addressed in this Complaint.

74. Avco Corporation expressly and impliedly warranted that the accident IO-360-L2A engine, its crankshaft gear, magneto and associated components were designed and manufactured properly and would therefore operate safely.

75. As a result of the sales activities of Avco Corporation, it expressly and impliedly warranted that the products were merchantable, airworthy, fit for their intended purpose, fit for their particular purpose, suitable for use in the accident aircraft, conformed to design data, and/or would operate safely in between inspection periods when properly maintained and used.

76. These warranties, descriptions, representations, and affirmations became part of the bases of the bargain of the sale of the product and these warranties

ran to Plaintiffs and their decedents as direct, indirect, intended, and/or third-party beneficiaries.

77. Plaintiffs and their decedents relied upon Avco Corporation's descriptions, representations, and affirmations and Plaintiffs' decedents would not have operated the accident aircraft with the IO-360-L2A engine had they known of any danger.

78. By selling defective products and/or performing defective services, Avco Corporation breached the express and implied warranties described above. Said breaches include the following:

a. negligently and/or defectively designing, manufacturing, rebuilding, inspecting, assembling, and/or overhauling the engine's crankshaft gear due to improper geometry, forging, metallurgy, materials selection, assembly, inspection, hardness, strength, or other characteristic rendering it capable of fracture;

b. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine's crankshaft gear to crankshaft attachment structure which was improperly aligned;

c. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling engine's crankshaft

gear due to improper geometry, forging, metallurgy, materials selection, hardness, strength, and/or other characteristic rendering it capable of tooth fracture and/or failure;

d. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to the inclusion of a defectively designed and/or manufactured crankshaft and/or crankshaft gear;

e. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to a single point failure at the crankshaft gear which results in the simultaneous malfunction of the required dual ignition sources;

f. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to the failure to incorporate independent ignition sources due to the single point failure existing at the crankshaft gear interface;

g. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine assembly due to excessive vibratory and/or torsional vibratory stresses imparted to the crankshaft gear;

- h. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a magneto that uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components and/or coming lose and damaging other structures;
- i. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the inclusion of a magneto that lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- j. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the inclusion of a magneto that lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;
- k. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to lack of a reliable timed ignition source;
- l. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to lack

of any safety feature which prevents the occurrence of in-flight magneto timing alteration;

m. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to lack of any safety feature which does not eliminate the delivery of ignition from a malfunctioned magneto;

n. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a magneto whose internal components are unreliable, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

o. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a fuel injector servo defectively designed and/or manufactured rendering it incapable of properly providing the required fuel air mixture and/or fuel flow due to unreliable components, improper materials selection, improper geometry of components, improperly assembly of internal components, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

- p. negligent, defective and improper warnings, instructions, and information necessary to render the fuel injector servo safe;
- q. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine due to the incorporation of a fuel flow divider incapable of properly providing the appropriate flow and of fuel to the engine combustion chamber due to defectively designed and/or manufactured valve, plunger, diaphragm, and/or plunger orifice;
- r. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto because it uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;
- s. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto because it lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- t. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto because it lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;

u. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to its unreliability as a timed ignition source;

v. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to lack of any safety feature which prevents the occurrence of in-flight timing alteration;

w. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to lack of any safety feature which does not eliminate the delivery of ignition after malfunction;

x. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the magneto due to the incorporation of unreliable internal components, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

y. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the of the engine magneto;

- z. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider seating orifice due to failure to remove burs, sharp edges, obstructions, occlusions, or other metallurgical malformations which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
  - aa. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider seating orifice failure to adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
  - bb. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider plunger (valve) due to failure to assemble properly, propensity to disengage by rotation, adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement within the orifice;
  - cc. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider diaphragm due to failure to assemble properly, propensity to rupture, or otherwise fail to seal;
  - dd. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider valve

and seat rendering it susceptible to cocking, rubbing, hanging, unfastening, sticking, or other form of obstruction;

ee. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the flow divider valve and seat due to lack of redundancy;

ff. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine fuel pump due to improper materials selection, improper geometry, improperly configuration, prone to cavitation, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

gg. failure to provide all necessary and/or accurate warnings to eliminate the dangers of the flow divider and/or components thereof;

hh. improper remanufacture, rebuild, and/or overhaul of components of the fuel injection servo to be established in discovery;

ii. negligently and/or defectively designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the engine;

jj. negligently designing, manufacturing, inspecting, rebuilding, assembling, and/or overhauling the IO-360-L2A engine in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;

- kk. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the IO-360-L2A engine and components safe; and
- ll. for reasons to be further identified after additional inspections of the engine, including but not limited to design defects in the rotating system of the engine, fuel delivery system of the engine, ignition system of the engine, or otherwise.

79. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

80. As a direct result of the foregoing breaches of warranties, the subject IO-360-L2A engine experienced an in-flight engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT IV  
(Strict Liability)**

**Plaintiffs v. Champion Aerospace LLC**

81. Plaintiffs incorporate paragraphs 1 through 80 above as if set forth at length in this count.

82. Defendant CAL is in the business of designing, manufacturing, selling, certifying, inspecting, testing, distributing, supplying, servicing, rebuilding, overhauling, supporting, and marketing aircraft engines including the subject magneto(s) and its component parts.

83. As part of its business operations, CAL designed manufactured, sold, certified, inspected, tested, distributed, supplied, serviced, rebuilt, overhauled, supported, and/or marketed the subject magneto(s) and its component parts.

84. In this role, CAL issued design specifications, material specifications, and operating specifications for the magneto(s).

85. Further to its status as the manufacturer, seller, designer, certifier, overhauler, rebuilders, and/or product supporter, CAL issued maintenance instructions, inspection instructions, troubleshooting instructions, and/or was also

required to issue all appropriate warnings necessary to make the magneto(s) safe for use in an aircraft engine.

86. The subject magneto(s) installed on the accident engine were defectively designed and/or manufactured at the time they left the control of CAL.

87. The defects in the subject magneto(s) include, but are not limited to the following:

- a. defective design and/or manufacture of the magneto(s) because it uses an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;
- b. defective design and/or manufacture of the magneto(s) because it lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- c. defective design and/or manufacture of the magneto(s) because it lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;
- d. defective design and/or manufacture of the magneto(s) due to its unreliability as a timed ignition source;
- e. defective design and/or manufacture of the magneto(s) due to lack of any safety feature which prevents the occurrence of in-flight timing alteration;

- f. defective design and/or manufacture of the magneto(s) due to lack of any safety feature which does not eliminate the delivery of ignition after malfunction;
  - g. defective and/or manufacture of the magneto(s) due to the incorporation of unreliable internal components, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
  - h. defective design and/or manufacture of the engine magneto(s);
  - i. designing and/or manufacturing the magneto(s) in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
  - j. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the magneto(s) safe; and
  - k. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the magneto internal operating components.
88. The foregoing defects rendered the magneto(s) dangerously defective beyond any reasonable consumer's expectation.

89. The danger and consequences of an in-flight magneto failure in an IO-360-L2A engine was beyond the expectations and acceptance of any reasonable consumer.

90. There was no way for Plaintiffs' decedents to anticipate or appreciate the dangerous condition of the products or the attendant risk of danger associated therewith.

91. Plaintiffs' decedents were ordinary consumers of the Defendant's product, and the Defendant's non-disclosure of information concerning the risks and dangers associated with the product fostered Plaintiffs' decedents' reasonable belief that the products were appropriate for the use to which they were advertised, intended, and permitted.

92. The risk and probability of harm to aircraft occupants associated with a magneto failure, including but not limited to, personal injury, death, death by fire, death by mutilation, and/or death by other horrible means, greatly outweighed the benefits of the product and the burden or cost of taken precautions or utilizing safer alternatively designed products that would have prevented this accident.

93. Feasible alternative designs existed at the time of the design inception, manufacture, and sale of the product which if used, would have prevented the accident.

94. Plaintiffs' decedents used the Defendant's product as it was intended to be used and were given no warnings or disclosures by Defendant of the defects identified above and the risks associated therewith.

95. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs' decedents and/or regulatory authorities.

96. As a direct and proximate result of the design defects, manufacturing defects, and/or Defendant's failure to warn as identified above, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT V**

**(Negligence)**

**Plaintiffs v. Champion Aerospace, LLC**

97. Plaintiffs incorporate paragraphs 1 through 96 above as if set forth at length in this count.

98. CAL is a seller, manufacturer, designer, distributor, assembler, rebuilder, overhauler, and product supporter of the magneto(s) and owed duties to Plaintiffs and their decedents to act in an appropriate and reasonable manner so as to prevent the sale and dissemination of a dangerous and defective product, and/or otherwise warn of such conditions.

99. In addition to those legal duties imposed by the common law, CAL is the holder of a regulatory license and/or certificate for the magneto(s) which imposes duties under federal regulatory law to design and manufacture a magneto in a manner that did not render the engine or aircraft unairworthy or otherwise cause the engine and/or magneto to fall below the applicable airworthiness standards, and/or otherwise warn of such conditions.

100. CAL breached its duties and was negligent, grossly negligent, careless, and reckless as follows:

a. negligently and/or defectively designing and/or manufacturing the magneto because it causes an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;

- b. negligently and/or defectively designing and/or manufacturing the magneto because it lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- c. negligently, and/or defectively designing and/or manufacturing the magneto because it lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;
- d. negligently and/or defectively designing and/or manufacturing the magneto due to its unreliability as a timed ignition source;
- e. negligently and/or defectively designing and/or manufacturing the magneto due to lack of any safety feature which prevents the occurrence of in-flight timing alteration;
- f. negligently and/or defectively designing and/or manufacturing the magneto due to lack of any safety feature which does not eliminate the delivery of ignition after malfunction;
- g. negligently and/or defectively designing and/or manufacturing the incorporation of unreliable internal components, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;

- h. negligently and/or defectively designing and/or manufacturing the engine magneto;
- i. negligently and/or defectively designing and/or manufacturing the magneto in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
- j. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the magneto safe;
- k. failing to inform, report, and disclose the forgoing defects and instances of negligence to regulatory authorities and the plaintiffs; and
- l. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the magneto internal operating components.

101. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

102. As a direct and proximate result of the foregoing acts and omissions, the subject IO-360-L2A engine experienced an engine failure which caused the

subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT VI**  
**(Breach of Express and Implied Warranties)**  
**Plaintiffs v. Champion Aerospace LLC**

103. Plaintiffs incorporate paragraphs 1 through 102 above as if set forth at length in this count.

104. At all times material hereto, CAL was a merchant engaged in the business of designing, manufacturing, selling, supplying, supporting, certifying, distributing, licensing, distributing, rebuilding, remanufacturing, overhauling, and/or assembling aviation magnetos, as well as the associated product support materials and instructions for continued airworthiness.

105. CAL described and advertised goods and services for sale, including the magneto.

106. Such descriptions and advertisements included, but not limited to, advertising brochures, internet website presence, instruction manuals, user manuals, overhauls manuals and/or product support materials.

107. These descriptions, representations, and affirmations concerning the products resulted in express warranties that the products were airworthy, safe for their intended use, and conformed to approved and/or mandated engineering data.

108. These descriptions, representations, and/or affirmations resulted in oral and written express and implied warranties concerning the products addressed in this Complaint.

109. CAL expressly and impliedly warranted that the accident magnetos and associated components were designed and manufactured properly and would therefore operate safely.

110. As a result of the sales activities of CAL, it expressly and impliedly warranted that the products were merchantable, airworthy, fit for their intended purpose, fit for their particular purpose, suitable for use in the accident engine, conformed to design data, and/or would operate safely in between inspection periods when properly maintained and used.

111. These warranties, descriptions, representations, and affirmations became part of the bases of the bargain of the sale of the product and these warranties

ran to Plaintiffs and their decedents as direct, indirect, intended, and/or third-party beneficiaries.

112. Plaintiffs and their decedents relied upon CAL's descriptions, representations, and affirmations and Plaintiffs' decedents would not have operated the accident aircraft with the IO-360-L2A engine and magneto had they known of any danger.

113. By selling defective products and/or performing defective services, Avco Corporation breached the express and implied warranties described above. Said breaches include the following:

- a. negligently and/or defectively designing and/or manufacturing the magneto because it causes an unstable hold down wedge intended to, but incapable of, securing the integrity of internal operating components;
- b. negligently and/or defectively designing and/or manufacturing the magneto because it lacks any design feature to ensure the stability and position of the hold down wedge to prevent its disengagement;
- c. negligently, and/or defectively designing and/or manufacturing the magneto because it lacks any precise installation method that ensures the position and stability of the magneto hold down wedge to prevent its disengagement;

- d. negligently and/or defectively designing and/or manufacturing the magneto due to its unreliability as a timed ignition source;
- e. negligently and/or defectively designing and/or manufacturing the magneto due to lack of any safety feature which prevents the occurrence of in-flight timing alteration;
- f. negligently and/or defectively designing and/or manufacturing the magneto due to lack of any safety feature which does not eliminate the delivery of ignition after malfunction;
- g. negligently and/or defectively designing and/or manufacturing the incorporation of unreliable internal components, improper materials selection, improper geometry, improperly insulated, improperly configured, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- h. negligently and/or defectively designing and/or manufacturing the engine magneto;
- i. negligently and/or defectively designing and/or manufacturing the magneto in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;

- j. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the magneto safe;
- k. failing to inform, report, and disclose the forgoing defects and instances of negligence to regulatory authorities and the plaintiffs; and
- l. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the magneto internal operating components.

114. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

115. As a direct and proximate result of the foregoing breaches, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT VII**  
**(Strict Liability)**  
**Plaintiffs v. Avstar Fuel Systems, Inc.**

116. Plaintiffs incorporate paragraphs 1 through 115 above as if set forth at length in this count.

117. Defendant Avstar is in the business of designing, manufacturing, selling, certifying, inspecting, testing, distributing, supplying, servicing, rebuilding, overhauling, supporting, and marketing aircraft engine flow dividers and component parts.

118. As part of its business operations, Avstar designed manufactured, sold, certified, inspected, tested, distributed, supplied, serviced, rebuilt, overhauled, supported, and/or marketed the subject flow divider and its component parts.

119. In this role, Avstar issued design specifications, material specifications, and operating specifications for the flow divider.

120. Further to its status as the manufacturer, seller, designer, certifier, overhauler, rebuild, and/or product supporter, Avstar issued maintenance instructions, inspection instructions, troubleshooting instructions, and/or was also

required to issue all appropriate warnings necessary to make the flow divider safe for use in an aircraft engine.

121. The subject flow divider installed on the accident engine was defectively designed and/or manufactured at the time they left the control of Avstar.

122. The defects in the subject flow divider include, but are not limited to the following:

- a. defective design and/or manufacture of the flow divider due to improper geometry of components, improper assembly of plunger/valve assembly, improper configuration of plunger/valve assembly for lack of sealing to ensure assembly and/or fuel flow, improper materials selection, inability of design to reliably regulate fuel;
- b. defective design and/or manufacture of the flow divider seating orifice due to failure to remove burs, sharp edges, obstructions, occlusions, or other metallurgical malformations which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
- c. defective design and/or manufacture of the flow divider seating orifice failure to adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
- d. defective design and/or manufacture of the flow divider plunger (valve) due to failure to assemble properly, propensity to disengage by

rotation, adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement within the orifice;

e. defective design and/or manufacture of the flow divider diaphragm due to failure to assemble properly, propensity to rupture, or otherwise fail to seal;

f. improper design of the flow divider valve and seat rendering it susceptible to cocking, rubbing, hanging, sticking, or other form of obstruction;

g. defective design and or manufacture of the plunger valve assembly rendering it susceptible to rotation and disengagement due to lack of locking, sealant, or other means to maintain the integrity of the plunger/valve;

h. improper design of the flow divider valve and seat due to lack of redundancy;

i. defective design and/or manufacture of the flow divider;

j. designing and/or manufacturing the flow divider in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;

k. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the flow divider safe; and

l. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the flow divider internal operating components.

123. The foregoing defects rendered the flow divider dangerously defective beyond any reasonable consumer's expectation.

124. The danger and consequences of an in-flight flow divider failure in an IO-360-L2A engine due to flow divider malfunction was beyond the expectations and acceptance of any reasonable consumer.

125. There was no way for Plaintiffs' decedents to anticipate or appreciate the dangerous condition of the products or the attendant risk of danger associated therewith.

126. Plaintiffs' decedents were ordinary consumers of the Defendant's product, and the Defendant's non-disclosure of information concerning the risks and dangers associated with the product fostered Plaintiffs' decedents' reasonable belief that the products were appropriate for the use to which they were advertised, intended, and permitted.

127. The risk and probability of harm to aircraft occupants associated with a flow divider failure, including but not limited to, personal injury, death, death by fire, death by mutilation, and/or death by other horrible means, greatly outweighed the benefits of the product and the burden or cost of taken precautions or utilizing safer alternatively designed products that would have prevented this accident.

128. Feasible alternative designs existed at the time of the design inception, manufacture, and sale of the product which if used, would have prevented the accident.

129. Plaintiffs' decedents used the Defendant's product as it was intended to be used and were given no warnings or disclosures by Defendant of the defects identified above and the risks associated therewith.

130. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing defects through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

131. As a direct and proximate result of the design defects, manufacturing defects, and/or Defendant's failure to warn as identified above, the subject IO-360-L2A engine experienced a catastrophic engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain

thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT VIII**  
**(Negligence)**  
**Plaintiffs v. Avstar**

132. Plaintiffs incorporate paragraphs 1 through 136 above as if set forth at length in this count.

133. Avstar is a seller, manufacturer, designer, distributor, assembler, rebuilder, overhauler, and product supporter of the flow divider and owed duties to Plaintiffs and their decedents to act in an appropriate and reasonable manner so as to prevent the sale and dissemination of a dangerous and defective product, and/or otherwise warn of such conditions.

134. In addition to those legal duties imposed by the common law, Avstar is the holder of a regulatory license and/or certificate for the flow divider which imposes duties under federal regulatory law to design and manufacture a flow divider in a manner that did not render the engine or aircraft unairworthy or

otherwise cause the engine and/or magneto to fall below the applicable airworthiness standards, and/or otherwise warn of such conditions.

135. Avstar breached its duties and was negligent, grossly negligent, careless, and reckless as follows:

- a. negligent design and/or manufacture of the flow divider due to improper geometry of components, improper assembly of plunger/valve assembly, improper configuration of plunger/valve assembly for lack of sealing to ensure assembly and/or fuel flow, improper materials selection, inability of design to reliably regulate fuel;
- b. negligent design and/or manufacture of the flow divider seating orifice due to failure to remove burs, sharp edges, obstructions, occlusions, or other metallurgical malformations which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
- c. negligent design and/or manufacture of the flow divider seating orifice failure to adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
- d. negligent design and/or manufacture of the flow divider plunger (valve) due to failure to assemble properly, propensity to disengage by rotation, adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement within the orifice;

- e. negligent design and/or manufacture of the flow divider diaphragm due to failure to assemble properly, propensity to rupture, or otherwise fail to seal;
- f. negligent design of the flow divider valve and seat rendering it susceptible to cocking, rubbing, hanging, sticking, or other form of obstruction;
- g. negligent design and or manufacture of the plunger valve assembly rendering it susceptible to rotation and disengagement due to lack of locking, sealant, or other means to maintain the integrity of the plunger/valve;
- h. negligent design of the flow divider valve and seat due to lack of redundancy;
- i. negligent design and/or manufacture of the flow divider;
- j. negligently designing and/or manufacturing the flow divider in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
- k. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the flow divider safe; and

l. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the flow divider internal operating components.

136. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing defects through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

137. As a direct and proximate result of the foregoing acts and omissions, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT IX**  
**(Breach of Express and Implied Warranties)**  
**Plaintiffs v. Avstar**

138. Plaintiffs incorporate paragraphs 1 through 139 above as if set forth at length in this count.

139. At all times material hereto, Avstar was a merchant engaged in the business of designing, manufacturing, selling, supplying, supporting, certifying, distributing, licensing, distributing, rebuilding, remanufacturing, overhauling, and/or assembling aviation flow dividers, as well as the associated product support materials and instructions for continued airworthiness.

140. Avstar described and advertised goods and services for sale, including the flow divider.

141. Such descriptions and advertisements included, but not limited to, advertising brochures, internet website presence, instruction manuals, user manuals, overhauls manuals and/or product support materials.

142. These descriptions, representations, and affirmations concerning the products resulted in express warranties that the products were airworthy, safe for their intended use, and conformed to approved and/or mandated engineering data.

143. These descriptions, representations, and/or affirmations resulted in oral and written express and implied warranties concerning the products addressed in this Complaint.

144. Avstar expressly and impliedly warranted that the accident flow divider and associated components were designed and manufactured properly and would therefore operate safely.

145. As a result of the sales activities of Avstar, it expressly and impliedly warranted that the products were merchantable, airworthy, fit for their intended purpose, fit for their particular purpose, suitable for use in the accident engine, conformed to design data, and/or would operate safely in between inspection periods when properly maintained and used.

146. These warranties, descriptions, representations, and affirmations became part of the bases of the bargain of the sale of the product and these warranties ran to Plaintiffs and their decedents as direct, indirect, intended, and/or third-party beneficiaries.

147. Plaintiffs and their decedents relied upon Avstar's descriptions, representations, and affirmations and Plaintiffs' decedents would not have operated the accident aircraft with the IO-360-L2A engine and flow divider had they known of any danger.

148. By selling defective products and/or performing defective services, Avco Corporation breached the express and implied warranties described above. Said breaches include the following:

- a. negligent and/or defective design and/or manufacture of the flow divider due to improper geometry of components, improper assembly of plunger valve assembly, improper configuration of plunger valve assembly for lack of sealing to ensure assembly and/or fuel flow, improper materials selection, inability of design to reliably regulate fuel;
- b. negligent and/or defective design and/or manufacture of the flow divider seating orifice due to failure to remove burs, sharp edges, obstructions, occlusions, or other metallurgical malformations which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
- c. negligent and/or defective design and/or manufacture of the flow divider seating orifice failure to adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement of the valve;
- d. negligent and/or defective design and/or manufacture of the flow divider plunger (valve) due to failure to assemble properly, propensity to disengage by rotation, adhere to required diameter size which will cause obstruction, hanging, seizure, or interference of the movement within the orifice;

- e. negligent and/or defective design and/or manufacture of the flow divider diaphragm due to failure to assemble properly, propensity to rupture, or otherwise fail to seal;
- f. negligent and/or defective design of the flow divider valve and seat rendering it susceptible to cocking, rubbing, hanging, sticking, or other form of obstruction;
- g. defective and/or negligent design and or manufacture of the plunger valve assembly rendering it susceptible to rotation and disengagement due to lack of locking, sealant, or other means to maintain the integrity of the plunger/valve;
- h. negligent and/or defective design of the flow divider valve and seat due to lack of redundancy;
- i. negligent and/or defective design and/or manufacture of the flow divider;
- j. negligently and/or defectively designing and/or manufacturing the flow divider in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
- k. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the flow divider safe; and

l. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the flow divider internal operating components.

149. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

150. As a direct and proximate result of the foregoing acts and omissions, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT X**  
**(Strict Liability)**  
**Plaintiffs v. Precision Airmotive LLC**

151. Plaintiffs incorporate paragraphs 1 through 151 above as if set forth at length in this count.

152. Defendant Precision is in the business of designing, manufacturing, selling, certifying, inspecting, testing, distributing, supplying, servicing, rebuilding, overhauling, supporting, and marketing aircraft engine fuel injector servos and component parts.

153. As part of its business operations, Precision designed manufactured, sold, certified, inspected, tested, distributed, supplied, serviced, rebuilt, overhauled, supported, and/or marketed the subject fuel injector servo and its component parts.

154. In this role, Precision issued design specifications, material specifications, and operating specifications for the fuel injector servo.

155. Further to its status as the manufacturer, seller, designer, certifier, overhauler, rebuild, and/or product supporter, Precision issued maintenance instructions, inspection instructions, troubleshooting instructions, and/or was also required to issue all appropriate warnings necessary to make the fuel injector servo safe for use in an aircraft engine.

156. The subject fuel injector servo installed on the accident engine was defectively designed and/or manufactured at the time they left the control of Precision.

157. The defects in the subject fuel injector servo include, but are not limited to the following:

- a. defective design and/or manufacture of the fuel injector servo because it is incapable of properly providing the required fuel air mixture and/or fuel flow;
- b. defective design and/or manufacture of the fuel injector servo because it is designed with unreliable components, improper materials selection, improper geometry of components;
- c. defective design and/or manufacture of the fuel injector servo due to improper assembly of internal components, improperly configured internal components, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- d. defective and improper warnings, instructions, and information necessary to render the fuel injector servo safe;
- e. defective design and/or manufacture of the fuel injector servo;

f. designing and/or manufacturing the fuel injector servo in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;

g. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the fuel injector servo safe; and

h. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the fuel injector servo internal operating components.

158. The foregoing defects rendered the fuel injector servo dangerously defective beyond any reasonable consumer's expectation.

159. The danger and consequences of an in-flight flow divider failure in an IO-360-L2A engine due to fuel injector servo malfunction was beyond the expectations and acceptance of any reasonable consumer.

160. There was no way for Plaintiffs' decedents to anticipate or appreciate the dangerous condition of the products or the attendant risk of danger associated therewith.

161. Plaintiffs' decedents were ordinary consumers of the Defendant's product, and the Defendant's non-disclosure of information concerning the risks and dangers associated with the product fostered Plaintiffs' decedents' reasonable belief

that the products were appropriate for the use to which they were advertised, intended, and permitted.

162. The risk and probability of harm to aircraft occupants associated with a fuel injector servo failure, including but not limited to, personal injury, death, death by fire, death by mutilation, and/or death by other horrible means, greatly outweighed the benefits of the product and the burden or cost of taken precautions or utilizing safer alternatively designed products that would have prevented this accident.

163. Feasible alternative designs existed at the time of the design inception, manufacture, and sale of the product which if used, would have prevented the accident.

164. Plaintiffs' decedents used the Defendant's product as it was intended to be used and were given no warnings or disclosures by Defendant of the defects identified above and the risks associated therewith.

165. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing defects through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

166. As a direct and proximate result of the design defects, manufacturing defects, and/or Defendant's failure to warn as identified above, the subject IO-360-L2A engine experienced a catastrophic engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT XI**  
**(Negligence)**  
**Plaintiffs v. Precision**

167. Plaintiffs incorporate paragraphs 1 through 167 above as if set forth at length in this count.

168. Precision is a seller, manufacturer, designer, distributor, assembler, rebuilder, overhauler, and product supporter of the fuel injector servo and owed duties to Plaintiffs and their decedents to act in an appropriate and reasonable manner so as to prevent the sale and dissemination of a dangerous and defective product, and/or otherwise warn of such conditions.

169. In addition to those legal duties imposed by the common law, Precision is the holder of a regulatory license and/or certificate for the fuel injector servo which imposes duties under federal regulatory law to design and manufacture a fuel injector servo in a manner that did not render the engine or aircraft unairworthy or otherwise cause the engine and/or magneto to fall below the applicable airworthiness standards, and/or otherwise warn of such conditions.

170. Precision breached its duties and was negligent, grossly negligent, careless, and reckless as follows:

- a. negligent design and/or manufacture of the fuel injector servo because it is incapable of properly providing the required fuel air mixture and/or fuel flow;
- b. negligent design and/or manufacture of the fuel injector servo because it is designed with unreliable components, improper materials selection, improper geometry of components;
- c. negligent design and/or manufacture of the fuel injector servo due to improper assembly of internal components, improperly configured internal components, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- d. negligent and improper warnings, instructions, and information necessary to render the fuel injector servo safe;

- e. negligent design and/or manufacture of the fuel injector servo;
- f. negligently designing and/or manufacturing the fuel injector servo in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
- g. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the fuel injector servo safe; and
- h. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the fuel injector servo internal operating components.

171. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing defects through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

172. As a direct and proximate result of the foregoing acts and omissions, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the

ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**COUNT XII**  
**(Breach of Express and Implied Warranties)**  
**Plaintiffs v. Precision**

173. Plaintiffs incorporate paragraphs 1 through 173 above as if set forth at length in this count.

174. At all times material hereto, Precision was a merchant engaged in the business of designing, manufacturing, selling, supplying, supporting, certifying, distributing, licensing, distributing, rebuilding, remanufacturing, overhauling, and/or assembling fuel injector servos, as well as the associated product support materials and instructions for continued airworthiness.

175. Precision described and advertised goods and services for sale, including the fuel injector servo.

176. Such descriptions and advertisements included, but not limited to, advertising brochures, internet website presence, instruction manuals, user manuals, overhauls manuals and/or product support materials.

177. These descriptions, representations, and affirmations concerning the products resulted in express warranties that the products were airworthy, safe for their intended use, and conformed to approved and/or mandated engineering data.

178. These descriptions, representations, and/or affirmations resulted in oral and written express and implied warranties concerning the products addressed in this Complaint.

179. Precision expressly and impliedly warranted that the accident fuel injector servo and associated components were designed and manufactured properly and would therefore operate safely.

180. As a result of the sales activities of Precision, it expressly and impliedly warranted that the products were merchantable, airworthy, fit for their intended purpose, fit for their particular purpose, suitable for use in the accident engine, conformed to design data, and/or would operate safely in between inspection periods when properly maintained and used.

181. These warranties, descriptions, representations, and affirmations became part of the bases of the bargain of the sale of the product and these warranties ran to Plaintiffs and their decedents as direct, indirect, intended, and/or third-party beneficiaries.

182. Plaintiffs and their decedents relied upon Precision's descriptions, representations, and affirmations and Plaintiffs' decedents would not have operated

the accident aircraft with the IO-360-L2A engine and subject fuel injector servo had they known of any danger.

183. By selling defective products and/or performing defective services, Precision breached the express and implied warranties described above. Said breaches include the following:

- a. defective and/or negligent design and/or manufacture of the fuel injector servo because it is incapable of properly providing the required fuel air mixture and/or fuel flow;
- b. defective and/or negligent design and/or manufacture of the fuel injector servo because it is designed with unreliable components, improper materials selection, improper geometry of components;
- c. defective and/or negligent design and/or manufacture of the fuel injector servo due to improper assembly of internal components, improperly configured internal components, or otherwise improperly designed rendering the device capable and likely to experience in flight malfunction;
- d. defective and/or negligent and improper warnings, instructions, and information necessary to render the fuel injector servo safe;
- e. defective and/or negligent design and/or manufacture of the fuel injector servo;

- f. defectively and/or negligently designing and/or manufacturing the fuel injector servo in such a manner that causes each of the foregoing conditions to manifest in between inspection and/or overhaul periods;
- g. failing to issue all warnings, maintenance instructions, inspection instructions, and/or troubleshooting instructions which are necessary to make the fuel injector servo safe; and
- h. for reasons to be disclosed after further discovery and inspections which place defendant on notice of claims involving any and all defects and failures of the fuel injector servo internal operating components.

184. It is believed and therefore averred that prior to the accident, Defendant had actual or constructive knowledge of the foregoing acts and omissions through its internal engineering analyses, product failure reports, other accidents, and/or service difficulty reports and did not disclose such information to Plaintiffs decedents and/or regulatory authorities.

185. As a direct and proximate result of the foregoing breaches, the subject IO-360-L2A engine experienced an engine failure which caused the subject aircraft carrying Plaintiffs' decedents to depart controlled flight and impact terrain thereby causing serious pre-death injuries to Plaintiffs' decedents, the ultimate deaths of Plaintiffs' decedents, and the damages to Plaintiffs' decedents' estates, beneficiaries, and dependents.

WHEREFORE, Plaintiffs demand judgment against Defendant for compensatory damages, punitive damages, delay damages, interest, and any other damage allowable under the law or otherwise deemed appropriate by the Court.

**JURY DEMAND**

Plaintiffs demand trial by jury on all of the above counts.

Dated: May 23, 2023

Respectfully submitted:

/s/ Bradley J. Stoll  
Bradley J. Stoll  
KATZMAN, LAMPERT & STOLL  
121 North Wayne Ave., Suite 205  
Wayne, PA 19087  
[bstoll@klm-law.com](mailto:bstoll@klm-law.com)  
Phone: (610) 686-9686  
Fax: (610) 686-9687  
PA ID: 89635

Counsel for Plaintiff Brent Criddle  
as Personal Representative of the Estate of  
Devin Criddle and Mark Raleigh as Personal  
Representative of the Estate of Braedan  
Raleigh